IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEBRASKA

BRIAN HERNANDEZ, Personal Representative for the Estate of SAUL HERNANDEZ Plaintiff, v. UNION PACIFIC RAILROAD COMPANY, Defendant.	)	Case No. 8:18-cv-00062

UNION PACIFIC'S BRIEF IN SUPPORT OF ITS MOTION IN LIMINE (*DAUBERT*) TO EXCLUDE DR. ROBERT P. GALE

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INTRODUCTION

This is a toxic tort lawsuit. Plaintiff, Brian Hernandez ("Plaintiff"), is the son and personal representative of Saul Hernandez, deceased ("Mr. Hernandez"). Mr. Hernandez worked for Defendant, Union Pacific Railroad Company ("Union Pacific"), as a laborer between 1980 and 1990. (Complaint, Filing No. 1, at ¶ 7.) Plaintiff filed a wrongful death lawsuit against Union Pacific under the Federal Employers' Liability Act ("FELA"), 45 U.S.C. §§ 51-60. Plaintiff alleges that Union Pacific negligently exposed Mr. Hernandez to various "toxic substances" including diesel exhaust, asbestos and silica dust while he was working, and these exposures caused him to develop and pass away from gastric[1] cancer. (Complaint, Filing No. 1, at ¶ 8.)

Plaintiff designated Dr. Robert P. Gale to offer opinions in this case on general and specific medical causation; that Mr. Hernandez's work at Union Pacific caused his stomach cancer. However, Dr. Gale has no knowledge whatsoever of Mr. Hernandez's exposures to diesel exhaust, asbestos and silica dust while working. Nor could Dr. Gale know these facts because none exist in this case. Mr. Hernandez is deceased, so he could not testify about his workplace exposures. The Plaintiff did not testify to any facts about his father's worksite or job tasks exposures; but even if he did, Dr. Gale did not read the Plaintiff's deposition. Dr. Gale did not speak to any witnesses who may have worked with Mr. Hernandez. There is no evidence in this case ***at all*** to show that Mr. Hernandez worked with, in, or around any of the toxic substances which Dr. Gale opines are a cause of Mr. Hernandez's cancer. Instead, all of Dr. Gale's knowledge comes from three facts provided to him by plaintiff's counsel: Mr. Hernandez worked at Union Pacific for 10 years, he was a brakeman/laborer, and he was exposed to these

[1]Union Pacific refers to Mr. Hernandez's disease as gastric cancer, or alternatively, stomach cancer.

substances. (*See* Exhibit 5 to Dep. of Dr. Robert P. Gale ("Counsel's Summary"), Ex. 2.) This is not evidence. It is also insufficient as a matter of law to admit Dr. Gale's opinions under Fed. R. Evid. 702.

Dr. Gale likewise cannot meet the Eighth Circuit requirements for admission of toxic tort causation testimony. Dr. Gale has no general knowledge of the amount or level of exposure to diesel exhaust, asbestos or silica dust that is capable of causing gastric cancer in humans. More specifically, Dr. Gale cannot identify how much exposure Mr. Hernandez may have had at Union Pacific, and whether this exposure was at or above a level that could cause gastric cancer. Finally, Dr. Gale refused to consider other risk factors as a likely cause for Mr. Hernandez's gastric cancer. He said he performed a differential etiology to determine specific causation in this case, but Dr. Gale intentionally did not rule other sole causes for Mr. Hernandez's disease.

This Court has previously held in multiple FELA cases that a toxic tort expert must have sufficient facts and information before he can testify as to general and specific medical causation at trial. These include knowledge: (1) that a certain amount of exposure to a substance is capable of causing the disease at issue; (2) that plaintiff was exposed to that certain amount while at work; and (3) that the expert has considered other risk factors for the disease and scientifically ruled one or more of them out as a possible cause. *See McLaughlin v. BNSF Ry Co.*, No. 4:18-cv-3047, 2020 WL 641729, 2020 U.S. Dist. LEXIS 23068, at *15, *19-20 (D. Neb. Feb. 11, 2020); *West v. Union Pac. R.R. Co.*, No. 8:17-cv-36, 2020 WL 531994, 2020 U.S. Dist. LEXIS 16711, at *16 (D. Neb. Feb. 3, 2020); *Harder v. Union Pac. R.R. Co.*, No. 8:18-cv-58, 2020 WL 469880, 2020 U.S. Dist. LEXIS 14313, at *16 (D. Neb. Jan. 29, 2020).

Dr. Gale is unable to offer any testimony on these three essential factors. What testimony he does give is entirely speculative and not grounded in science, facts or data as required by Fed. R. Evid. 702. For these reasons, this Court should exclude his testimony at trial

FACTS

I. Mr. Hernandez

Mr. Hernandez worked as a laborer with Union Pacific from 1980 to 1990. (Complaint, Filing No. 1, at ¶ 7.) He was diagnosed with gastric cancer in 2013 and passed away on October 9, 2014. (*Id.* at ¶ 3; Dec. of Kelsey A. Klute, M.D. ("Klute Dec."), Ex. 3, at ¶ 9.) Mr. Hernandez smoked one to two packs of cigarettes per week for 50 years. (*Id.* at ¶ 7.) He quit smoking in September 2013, the year before he died. (*Id.*) Mr. Hernandez had a history of gastroesophageal reflux disease ("GERD"), colon polyps, peptic ulcers, and gastritis. (Dep. of Dr. Robert P. Gale ("Gale Dep."), Ex. 4, at 194:8-25.) Mr. Hernandez was also obese. (*Id.* at 195:1-3.)

In 2007, doctors discovered Mr. Hernandez suffered from gastritis caused by a *heliobacter pylori* ("*H. Pylori*") infection. (*Id.* at ¶ 8.) In 2010, Mr. Hernandez underwent an additional procedure for abdominal pain. (*Id.*) During the procedure, doctors again discovered an *H. pylori* infection in his stomach. (*Id.*) *H. pylori* is a well-established risk factor for diffuse gastric cancer, which is the particular type of gastric cancer that inflicted Mr. Hernandez. (*Id.* at ¶¶ 13-14.) Case control studies demonstrate that roughly 60% of gastric cancer cases would not occur absent *H. pylori*'s existence. (*Id.* at ¶ 15.)

II. Dr. Gale

Dr. Gale is a medical doctor. (Rep. of Dr. Robert P. Gale ("Gale. Rep."), Ex. 5, at 1.) Plaintiff designated Dr. Gale to offer opinions at trial on general causation and specific medical causation. (Plaintiff's Expert Disclosures, Ex. 6, at 1.) Although the complaint alleges Mr.

Hernandez was exposed to numerous toxins, Dr. Gale's opinions are limited to Mr. Hernandez's alleged exposures to diesel exhaust, silica dust, and asbestos. (*See* Gale Rep., Ex. 5, at 1.)

A. Facts Dr. Gale Possesses Regarding Mr. Hernandez's Alleged Exposures

Dr. Gale relied on the following sources to determine that Mr. Hernandez was exposed to diesel exhaust, silica dust, and asbestos in his employment: (1) a one-page fact summary about Mr. Hernandez's lawsuit, which was drafted by Plaintiff's counsel; (2) an online video that showed one of the job duties that Dr. Gale assumed a trackmen would perform; and (3) the estimation of Mr. Hernandez's diesel exhaust exposures by Plaintiff's toxicology expert, Dr. Joseph Landolph. (Gale Dep., Ex. 4, at 27:1-14).

The one-page summary is so pithy, it is set out below in its entirely. This was drafted[2] by plaintiff's counsel, Brian Depew, and given to both Dr. Gale and Dr. Landolph to use as a factual basis for their opinions.

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[2] Counsel's summary is not the only example of plaintiff's counsel drafting work product for his expert. At the deposition's outset, Dr. Gale informed Union Pacific's counsel that he did not author significant parts of the document that plaintiff submitted to Union Pacific as Dr. Gale's expert report. (Gale Dep., Ex. 4, at 9:9-11:4.) When Union Pacific asked Dr. Gale what exactly the document submitted by plaintiff as Dr. Gale's expert report was, Dr. Gale stated "[l]et's not call it my draft report, because it's a misrepresentation of what I said. *I don't know what it is.* I only know I received it back from [plaintiff's counsel]." (*Id.* at 9:20-23 (emphasis added).) He went on to state that that "[t]here are parts of this that are obviously taken from my report of 23 July. And there are other parts that have no relationship." (*Id.* at 10:17-19.) When asked why the report was signed with his name, Dr. Gale stated he never signed the document. (*Id.* at 11:1-7.)

Expert reports due: 7/15/2019

Name of case: Estate of Saul Hernandez v Union Pacific

Name: Saul Hernandez (deceased)

Age: 72

DOB: 9/16/1947

Date of diagnosis: 11/27/2013

Diagnosis: Stage III gastric cancer with metastatic lymph node involvement

Treatment: Distal gastrectomy with D1 lymphadenectomy

Smoking hx: 40-year smoker

ETOH hx: moderate alcohol intake, quit 6 year prior to dx

Date of Death: 10/9/2014

Cause of Death:

Employment History: Union Pacific

Total years: 10 years

Start date: 1980

Age at start date: 33 yo

Stop date: 1990

Age at stop date: 43

Job title: Brakeman/laborer

Exposure: Diesel exhaust, benzene, heavy metals, creosote, silica dust, and gasoline vapor

(Counsel's Summary, Ex. 3.)

As the Court can see, Plaintiff's counsel did not cite any references to support these facts in his Summary. He did not provide Dr. Gale with additional detail. Dr. Gale testified that he "had no access to other documents so I have only the description that is provided in [Counsel's Summary]." (*Id.* at 80:8-10.) Dr. Gale relied on Counsel's Summary to provide him information regarding Mr. Hernandez's alleged exposures. (Gale Dep., Ex. 4, at 24:5-7.)

Counsel's Summary, relied upon by Dr. Gale, is not supported by any facts in this record. There are no studies or tests to show that Mr. Hernandez was ever exposed to any substance while Mr. Hernandez was working at Union Pacific. There are no documents and no witness testimony which might detail Mr. Hernandez's job tasks while working, and how those job tasks may have exposed him to diesel exhaust, silica dust, and asbestos. There are no facts about Union Pacific worksites to show how or where Mr. Hernandez may have been exposed to diesel exhaust, silica dust, and asbestos, if at all. Mr. Hernandez is deceased, so he could not testify to any alleged exposures. The record before the Court is factually silent.

B. Things Dr. Gale Does Not Know About Mr. Hernandez's Alleged Exposures

Dr. Gale testified that he knows nothing about Mr. Hernandez's life, career, and alleged exposures – other than what he was provided by counsel in Counsel's Summary. For instance, taken from his testimony:

- Dr. Gale does not know where Mr. Hernandez worked. (*Id.* at 66:19-20.)
- Dr. Gale did not read Mr. Hernandez's son's deposition. (*Id.* at 35:4-6.)
- Dr. Gale did not interview Mr. Hernandez's wife. (*Id.* at 35:7-8.)
- Dr. Gale did not speak to any of Mr. Hernandez's co-workers or supervisors. (*Id.* at 35:9-13.)

- Dr. Gale does not know whether Mr. Hernandez had other occupations or other exposures to diesel exhaust, asbestos or silica dust during his life. (*Id.* at 81:14-16.)

- Dr. Gale did not speak to any employees of other railroads to learn about a trackman's job duties. (*Id.* at 35:15-25.)

- Dr. Gale's only research on a trackman's duties came from an online video he found of a railroad trackman operating a machine; however, Dr. Gale does not know whether the trackman, machine, or the workplace was at Union Pacific. (*Id.* at 27:1-23, 28:1-7, 35:15-25)

- After watching that video, Dr. Gale assumed Mr. Hernandez would have been exposed to the same elements as those in the video over the course of 10 years; however Dr. Gale could not tell from the video what type of material was being used by the trackman, whether Mr. Hernandez used that same type of machine, or whether he would have been exposed to the same type of rocks in the video. (*Id.* at 62:12-20, 23-63:20, 64-66:1-25, 78:14-80:2.)

- Dr. Gale did not look at Mr. Hernandez's employment records to determine his worksites or job tasks. (*Id.* at 36:1-3.)

- Dr. Gale did not review any air studies that Union Pacific provided to Plaintiff in discovery. (*Id.* at 36:4-12.)

- Dr. Gale admits he has no knowledge of the dose of silica dust to which Mr. Hernandez was allegedly exposed. (*Id.* at 62:14-22.)

- Dr. Gale admits he has no actual knowledge of the levels of Mr. Hernandez's alleged asbestos exposures. (*Id.* at 87:23-88:1.) Instead, Dr. Gale stated he *assumes* Mr. Hernandez would have been exposed to asbestos from brake-shoes on passing trains, track repair equipment, and asbestos ropes used to heat the track. (*Id.* at 88:13-18.)

- Dr. Gale has no actual knowledge as to the specific job tasks Mr. Hernandez performed for Union Pacific during the 10 years of his employment. (*Id.* at 79:10-25, 80:1-2.) "Well, I don't know how I would have that knowledge. If he was not a trackman, then I've been misinformed by plaintiff's counsel." (*Id.* at 79:24-25, 80:1-2.)

- Dr. Gale stated that Dr. Landolph did not determine an amount of asbestos to which Mr. Hernandez was exposed while at work for Union Pacific. (*Id.* at 93:22-94:1.)

- When asked about the source of information underlying his assumption that Mr. Hernandez was exposed to asbestos from passing trains' brake-pads, he stated

"[w]ell, I have no actual knowledge, but it is highly unlikely that he wasn't exposed." (*Id.* at 91:12-15.)

- Dr. Gale testified that he did not calculate the levels of Mr. Hernandez's diesel exhaust exposure. (*Id.* at 131:18-25.) Instead, he relied on Dr. Landolph's estimation, which is based on proxy values determined by the California Office of Environmental Health Hazard Assessment ("COEHHA"). (*Id.*)

- Dr. Gale stated the COEHHA equation is a better measure of Mr. Hernandez's exposures than the air studies provided to plaintiff by Union Pacific. (*Id.* at 142:10-20.) Dr. Gale never looked at Union Pacific's air studies to confirm or deny the veracity of this opinion. (*Id.* at 143:2-20.)

C. Dr. Gale's Method For Determining General Causation

Dr. Gale testified that he employed a "weight-of-the-evidence method" to determine general causation, which he described as "an expansion and a more sophisticated evolution of a [Bradford] Hill criteria." (*Id.* at 55:2-5.) Dr. Gale stated that "[t]he process is to consider all the evidence in favor and contrary to the opinion that an exposure was more likely than not a cause, to a reasonable degree of medical probability, a cause of cancer. . . ." (*Id.* at 55:6-12.) Dr. Gale, however, has never published a paper discussing gastric cancers. (*Id.* at 38:24-39:9.) He has never written a published paper regarding a link between exposure to diesel exhaust, asbestos, or silica and gastric cancer, nor has he given a speech or hosted a seminar regarding these alleged exposures. (*Id.* at 39:10-40:25.)

Dr. Gale's report states that silica dust is a known carcinogen. (Gale Rep., Ex. 5, at 8.) His report, however, does not explain whether silica dust is associated with gastric cancer. (*See id.*) Dr. Gale testified that he does not know how much silica dust exposure is necessary to cause gastric cancer. (*Id.* at 67:4-7.) Dr. Gale says it is "general knowledge" that rocks contain silica, citing his high school earth science class experience. (*Id.* at 66:8-12.) He went on to explain that he knows "rocks in California happen to contain—and is it Nebraska?—or some other state are particularly rich in silica. But certainly California has a high concentration of silica [in] rocks."

(*Id.* at 66:13-18.) Dr. Gale then confirmed he was unaware of the state where Mr. Hernandez was employed. (*Id.* at 66:19-20.)

Dr. Gale also testified that asbestos exposures can cause gastric cancer. (*Id.* at 94:4-95:2.) Dr. Gale stated the biological process by which asbestos fibers can cause gastric cancer is unknown. (*Id.* at 102:16-22.) Dr. Gale testified that a single asbestos fiber can cause mesothelioma, and therefore there is no threshold of asbestos necessary to cause cancer. (*Id.* at 105:14-19.)

Dr. Gale also opines that exposure to diesel exhaust can cause gastric cancer. (Gale Rep., Ex. 5, at 8.) Dr. Gale, however, was unable to describe a threshold amount or dose of diesel exhaust exposure that could cause gastric cancer, nor could he describe diesel exhaust exposure and gastric cancer's dose-response relationship. (Gale Dep., Ex. 4, at 136:5-141:15.) Dr. Gale bases his general causation opinion regarding diesel exhaust exposure and gastric cancers on an excess risk calculation performed by Dr. Landolph. (*Id.* at 140:23-141:7.) However, Dr. Gale admitted Dr. Landolph's risk calculation regarding cancers that would hypothetically result from diesel exhaust exposure was not specific to gastric cancer, and was instead a generalized calculation for all cancers. (*Id.* at 141:1-15.)

D. Dr. Gale's Method For Determining Specific Causation

Dr. Gale described his process to determine specific causation as "the Bayesian approach." (*Id.* at 161:4-7.) He states, "I considered because I was asked not to determine the cause, but whether . . . whether to a reasonable degree of medical probability [that] exposure to the [alleged exposures] was a cause." (*Id.* at 161:8-12.)

Dr. Gale testified that geography, social class, socioeconomic parameters, family history, diet, and smoking history are all risk factors for developing gastric cancers. (*Id.* at 120:18-

123:20.) However, Dr. Gale did not rule out other potential causes of Mr. Hernandez's disease because plaintiff's counsel did not ask him to. (*Id.* at 82:14-18; 165:18-166:4.) He specifically stated he did not rule out smoking as a possible cause, nor did he rule out Mr. Hernandez's obesity. (*Id.* at 167:21-22; 195:18-22.) Dr. Gale refused to testify regarding the possibility that the cause of Mr. Hernandez's gastric cancer is unknown:

> Q: Did you consider an idiopathic cause here with Mr. Hernandez?
>
> A: Well, that's not what I was asked to do. I mean, that's kind of a non—that's a question that doesn't make any sense. Did you consider an idiopathic cause? Did you consider the unknown?
>
> Q: Uh-huh.
>
> A: That's not a sensible question. That's not what I was asked to do. I was asked to determine whether his exposures were a cause. . . . [n]ot whether, you know, acts of God or I don't know what.
>
> Q: Let me ask it this way. Were you able to rule out an idiopathic cause?
>
> A: That's a nonsensical question to me, so I can't answer it.

(*Id.* at 179:6-23.)

Mr. Hernandez's medical records document a history of *H. pylori* infection in his stomach in 2007 and again in 2010. (Klute Dec. Ex. 3, at ¶ 8, 11.) The International Agency for Research on Cancer (IARC) has classified *H. pylori* as a carcinogen with sufficient evidence linking it to gastric cancer. (*Id.* at ¶ 14.) *H. pylori* infection is an unequivocal risk factor for the development of diffuse gastric cancer, the same type of cancer suffered by Mr. Hernandez, with a relative risk up to 8.0. (*Id* at ¶¶ 13-16.)

Dr. Gale testified that he was not aware that Mr. Hernandez suffered from an *H. pylori* infection in the same area of his stomach as his gastric tumor. (Gale Dep., Ex. 4, at 184:6-16; 185:20-186:10; 189:1-3.) He admitted that his lack of knowledge regarding Mr. Hernandez's *H.*

pylori infections precluded the possibility he ruled it out as a possible cause when formulating his opinions. (*Id.* at 196:1-3.) Instead, he said analyzing Mr. Hernandez's *H. pylori* infection was outside the scope of his work:

> Q: So I'm still trying to understand how you reached a conclusion in this case, or what method you applied to reach a conclusion in this case that your focus is on silica, asbestos, and diesel exhaust and not Heliobacter pylori, as an example.
>
> A: Well, I wasn't asked to opine about Heliobacter. That's not a task I was asked. I could consider it. I was unaware of it, but I could consider it if you ask me. You know, I'm not going to do it right here and now. But you could ask—you could ask me and I would give you my opinion whether Heliobacter exposure
> was a cause.

(*Id.* at 196:25-197:12.)

ARGUMENT

I. STANDARD OF REVIEW

A. Fed. R. Evid. 702 and *Daubert* Control Admissibility Of Expert Testimony.

Fed. R. Evid. 702, as interpreted by the Supreme Court in *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993) ("*Daubert*") governs expert testimony. Under Rule 702, courts must ensure that a proffered expert is qualified by his knowledge, skill, experience, training, or education before that person may testify as an expert. Fed. R. Evid. 702 also demands that (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. The party offering the expert "must show by a preponderance of the evidence both that the expert is qualified to render the opinion and that the methodology underlying his conclusions is scientifically valid." *Daubert*, 509 U.S. at 589-90.

To satisfy this requirement, the proponent "must show that the expert's reasoning or methodology was applied properly to the facts at issue." (*Id*.)

B. The FELA Does Not Alter *Daubert* Analysis For Admitting Expert Opinions Under Fed. R. Evid. 702.

The Eighth Circuit and numerous other federal courts routinely hold that the FELA's modified causation standard does not change or alter the *Daubert* requirements for admission of expert testimony. *See, e.g., Schulenberg v. BNSF Ry.*, 911 F.3d 1276, 1282-83 (10th Cir. 2018); *Brown v. Burlington N. Santa Fe Ry.*, 765 F.3d 765, 772 (7th Cir. 2014); *Granfield v. CSX Transp.*, 597 F.3d 474, 486 (1st Cir. 2010); *Hose v. Chi. Nw. Transp.*, 70 F.3d 968, 972 (8th Cir. 1995). FELA plaintiffs "still must demonstrate some causal connection between a defendant's negligence and their injuries." *Claar v. Burlington Northern R.*, 29 F.3d 499, 503 (9th Cir. 1994).

This Court agrees. It has consistently ruled that the causation standard in a FELA case does not alter a court's determination as to whether an expert is qualified to testify at trial under *Daubert* and Fed. R. Evid. 702. *McLaughlin v. BNSF Ry.*, 2020 U.S. Dist. LEXIS 23068, at *10 (D. Neb. Feb. 11, 2020); *West v. Union Pac. R.R.*, 2020 U.S. Dist. LEXIS 16711, at *5 (D. Neb. Feb. 3, 2020); and *Harder v. Union Pac. R.R.*, 2020 U.S. Dist. LEXIS 14313, at *5 (D. Neb. Jan. 29, 2020).

C. The Eighth Circuit's Guidance on Applying *Daubert* Controls.

Courts should apply four non-exclusive factors to determine whether the proffered expert's opinion is reliable: (1) whether the theory can be or has been tested; (2) whether the theory has been subjected to peer review and publication; (3) in the case of a particular scientific technique, what the known or potential rate of error is and the existence and maintenance of standards controlling the technique's operation; and (4) whether the theory has received "general

acceptance" in the relevant scientific community. *Presley v. Lakewood Eng'g & Mfg.*, 553 F.3d 638, 643 (8th Cir. 2009) (*citing Daubert*, 509 U.S. at 593-94).

In addition, the Eighth Circuit includes additional factors: (5) "whether the expertise was developed for litigation or naturally flowed from the expert's research; (6) whether the proposed expert ruled out other alternative explanations; and (7) whether the proposed expert sufficiently connected the proposed testimony with the facts of the case." (*Id.*)

An expert's opinion must be grounded in fact, not mere subjective belief or unsupported speculation. Expert testimony is inadmissible if it is speculative, unsupported by sufficient facts, or contrary to the facts of the case. *Marmo v. Tyson Fresh Meats*, 457 F.3d 748, 757 (8th Cir. 2006). If an expert opinion is so fundamentally unsupported that it can offer no assistance to the jury, then the testimony should not be admitted. *See Loudermill v. Dow Chemical*, 863 F.2d 566, 570 (8th Cir. 1988). The burden is on the FELA plaintiff to "…present evidence from which a jury could conclude a probable or likely **causal** relationship as opposed to merely a possible one." *Savage v. Union Pac. R.R.*, 67 F. Supp. 2d 1021, 1027 (E.D. Ark. 1999) (emphasis added); *see also Harder*, 2020 U.S. Dist. LEXIS 14313, at *11.

D. The Eighth Circuit's Burden Of Proving Reliability In A Toxic Tort Case.

In a toxic tort case such as this one, the Eighth Circuit has set out essential elements of proof for medical causation experts, like Dr. Gale. These elements will sufficiently demonstrate, under *Daubert*, that the expert reliably connected the relevant scientific data to the facts of the case. The expert must be able to show:

- that a certain amount of exposure to a substance is capable of causing the disease at issue;
- that the plaintiff was exposed to that certain amount while at work; and

- that the expert has considered other risk factors for the disease at issue and scientifically ruled one or more of them out as a sole cause.

See Wright v. Willamette Indus., Inc., 91 F.3d 1105, 1106 (8th Cir. 1996); *Bonner v. Isp Techs.*, 259 F.3d 924, 928 (8th Cir. 2001). As one court has explained, the underlying predicates of any cause-and-effect medical testimony are that medical science understands the physiological process by which a particular disease or syndrome develops and knows what factors cause the process to occur. *Black v. Food Lion, Inc.*, 171 F.3d 308, 314 (5th Cir. 1999). A medical causation expert can meet these thresholds of proof in two steps: general causation and specific causation. Each will be discussed separately below.

II. DR. GALE CANNOT PROVE GENERAL CAUSATION.

A. Dr. Gale Does Not Rely On Sufficient Facts To Establish General Causation.

To prove general causation in a toxic tort case, the expert must be able to reliably establish that the agents at issue—here diesel exhaust, silica dust, and asbestos—can cause diffuse gastric cancer. Federal Rule of Evidence 702 requires an expert's testimony to be based on sufficient facts or data. Fed. R. Evid. 702(b). In this case, Dr. Gale had no facts or data on whether Mr. Hernandez was exposed to diesel exhaust, asbestos or silica. Dr. Gale's entire knowledge of Mr. Hernandez's actual exposures derive from three "sources" of information regarding Mr. Hernandez's alleged occupational exposures: (1) Counsel's Summary, (2) an online video of some unknown railroad worker operating a track machine around some type of rock, and (3) generalized projections for diesel exhaust reached using an equation created by a California government agency. (Gale Dep., Ex. 4, at 42:8-25.) All three sources are grossly insufficient under Fed. R. Evid. 702(b), taken alone or taken together, to provide Dr. Gale with the foundation necessary to render opinions based on reliable scientific methods.

1. Counsel's Summary Is An Insufficient Basis For Expert Opinions.

The first "source" on which Dr. Gale relies to determine Mr. Hernandez's exposures is Counsel's Summary. (*Id.* at 24:5-7, 80:8-10.) Dr. Gale admits, regarding Mr. Hernandez's job duties, that he "had no access to other documents so I only have the description that is provided in [Counsel's Summary]." (*Id.*) Counsel's Summary states only that Mr. Hernandez was a "brakeman/laborer." (Counsel Summary, Ex. 2.) It does not state that Mr. Hernandez was a "trackman," as Dr. Gale surmised on his own. (Gale Dep., Ex. 4, at 35:9-25.) This fact is not supported anywhere in the record.

In any event, Counsel's Summary does not contain admissible facts. It is at best hearsay, and at worst unsupported by evidence or testimony. The record here is completely devoid of any facts or information about what Mr. Hernandez did while working, where he did it, and whether these worksites or job tasks may have exposed him to diesel exhaust, asbestos or silica dust. There are no witnesses nor documents which describe the possible exposures Mr. Hernandez may have had while working for 10 years at Union Pacific. Dr. Gale simply assumed that Mr. Hernandez was a "trackman," and that he was exposed to diesel exhaust, asbestos and silica became plaintiff's counsel told him so. (*Id.* at 41:23-3.)

"Experts should not be attorney's puppets who merely parrot opinions ginned up by counsel." *Ross v. City of Rockford*, 15-cv-50064, 2018 U.S. Dist. LEXIS 51398, at *14-15 (N.D. Ill. Mar. 27, 2018). If they were, "an attorney could simply take a blank computer screen, fill it with counsel's own report, hand it off to the expert for signature, and nobody—including the trier of fact—would be allowed to know this pernicious practice occurred." (*Id.)* (citing 6 Moore's Fed. Practice, § 26.23[5] (Matthew Bender 3d ed. 2016)). The gap between the conditions alleged by counsel and Dr. Gale's conclusions must be linked with supporting

scientific evidence. *See Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (stating "a court may conclude that there is simply too great an analytical gap between the data and the opinion proffered"). Plaintiff's counsel's own allegations are not enough. *See Savage*, 67 F. Supp. 2d at 1033 (stating plaintiff must demonstrate actual level of exposure to the substance).

Viterbo v. Dow Chem. is instructive on this issue. 826 F.2d 420 (5th Cir. 1987). *Viterbo* sets forth the legal principle that reliance on a plaintiff's incomplete oral history alone is insufficient foundation for an expert opinion.[3] (*Id.* at 423; *see also Loudermill v. Dow Chem.*, 863 F.2d 566, 570 (8th Cir. 1988) (expert opinion lacking objective factual support cannot help jury and thus is inadmissible under Fed R. Evid. 702)). In *Viterbo*, the plaintiff claimed he suffered personal injuries after using the pesticide Tordon 10K. *Viterbo*, 826 F.2d at 421. The trial court rejected his expert's opinion testimony under Fed. R. Evid. 702 because it was based on insufficient facts, namely plaintiff's sole assertion that the defendant's pesticide caused his injuries. (*Id.)* The Fifth Circuit affirmed, finding that:

> **In this case today we consider the question whether it is so if an expert says it is so.** Although the plaintiff's expert here said it was so, the district court excluded the expert's opinion and granted summary judgment in favor of the defendant. **We uphold the district court because the plaintiff's expert brought to court little more than his credentials and a subjective opinion.**

(*Id.* at 421 (emphasis added) (citations omitted).)

> ….Dr. Johnson's opinion rests on Viterbo's statements that he experienced certain symptoms and that Tordon 10K was the only possible cause. This opinion simply lacks the foundation and reliability necessary to support expert testimony. **As an**

[3] Even though this case is pre-*Daubert*, it discusses the admissibility of expert opinions under FRE 702 when the expert lacks sufficient facts to render opinions to the jury. The case is still good law for this proposition. *See Eckelkamp v. Beste*, 315 F.3d 863, 868 (8th Cir. 2002) (*citing Viterbo*, 826 F.2d at 422 ("summary judgment may be appropriate if an expert opinion is fundamentally unsupported and therefore of no assistance to the trier of fact.")); *Asher v. Bayer Corp. (In re Baycol Prods. Litig.)*, 2009 U.S. Dist. LEXIS 131063 at *13 (D. Minn. Mar. 30, 2009) (*citing Viterbo*, 826 F.2d at 423 "reliance on a plaintiff's incomplete oral history alone is insufficient foundation for an expert opinion.")).

> **unsupported opinion, it does not serve the purposes for which it is offered, that is, objectively to assist the jury in arriving at its verdict**. … Here, however, **Dr. Johnson has admitted that Viterbo's symptoms could have numerous causes and, without support, save Viterbo's oral history, [he] simply picks the cause that is most advantageous to Viterbo's claim.** Indeed, Dr. Johnson's testimony is no more than Viterbo's testimony dressed up and sanctified as the opinion of an expert. **Without more than credentials and a subjective opinion, an expert's testimony that 'it is so' is not admissible.**

(Id. at 424 (emphasis added).)

York v. BNSF Ry. Co is similarly instructive. No. 17-cv-1088, 2019 U.S. Dist. LEXIS 27644 (D. Colo. Feb. 21, 2019). In *York*, the plaintiff sued BNSF Railway, alleging his occupational exposures to diesel exhaust and asbestos caused him to develop bladder cancer. *Id.* at *1. The plaintiff designated Dr. E. Roy Berger to provide causation opinions. *Id.* at *4. However, the court disapproved of Dr. Berger's process:

> Dr. Berger received no information whatsoever concerning York or his work conditions from any other source. He did not review York's work history documentation; assess chemical testing records; speak with York; analyze worksite conditions at BNSF; read the deposition transcripts of York or any other witness in this case; or *interview anyone except York's counsel in forming his opinions*.

(Id. at *5 (emphasis added).)

The court excluded Dr. Berger, commenting the plaintiff's expert "could swap out York's name for that of any other ex-railroad employee with bladder cancer and the information contained therein would be functionally identical and equally inoperative as to specific causation." 2019 U.S. Dist. LEXIS 27644, at *20.

Dr. Gale's knowledge regarding Mr. Hernandez suffers from even greater deficiencies than those identified in *Viterbo* and *York*. Dr. Gale's only information specific to Mr. Hernandez came from a job title set out by Plaintiff's counsel in his Summary: brakeman/laborer. (*See* Counsel's Summary, Ex. 2.) Even with that, Dr. Gale misread that one fact and thought Mr. Hernandez was a trackman instead. (Gale Dep., Ex. 4, at 78:22-25, 79:1-3.)

> Q. Where does your specific knowledge that Mr. Hernandez was actually exposed to silica dust while working at Union Pacific, where does that actual knowledge come from?
>
> A. Well, if I -- if I understand your question correctly, **I was provided with information that he was a trackman."**

(*Id.* (emphasis added).)

> Q. Okay. But that was still an assumption, wasn't it? I mean, you have no actual knowledge as to the specific job tasks that he performed while he worked for Union Pacific for those 10 years, do you
>
> A: Well, I don't know how I would have that knowledge**. If he was not a trackman, then I've been misinformed by plaintiff's counsel.**

(*Id.* at 79:19-80:2 (emphasis added).) The foundation of Dr. Gale's opinions are based upon this one fact – that Mr. Hernandez was a trackman - and he got that one fact wrong.

Dr. Gale comes to this case with no knowledge or information about Mr. Hernandez's exposures to diesel exhaust, asbestos or silica ***whatsoever.*** Dr. Gale did not read Mr. Hernandez's son's deposition. (Gale Dep., Ex. 4, at 35:4-6.) Dr. Gale did not speak to any of Mr. Hernandez's co-workers or supervisors. (*Id.* at 35:9-13.) Dr. Gale did not interview Mr. Hernandez's wife. (*Id.* at 35:7-8.) Dr. Gale did not look at any of Mr. Hernandez's employment records. (*Id.* at 36:1-3.) In sum, Dr. Gale's proposed opinions are based on plaintiff's lawyers' allegations only. For this reason, his opinions must be excluded under Fed. R. Evid. 702. *See, e.g.*, *Dean v. Thermwood Corp.*, No. 10-cv-433, 2012 U.S. Dist. LEXIS 3784, at *23 (N.D. Okla. Jan. 11, 2012) (striking proposed expert testimony because expert's opinions were "little more than Plaintiff's testimony dressed up and sanctified as the opinion of an expert"); *Mercedes-Benz USA, Inc. v. Coast Auto. Grp. Ltd.*, 362 F. App'x 332, 335 (3d Cir. 2010) (affirming exclusion of proposed expert testimony where proposed expert failed to independently verify plaintiff's allegations).

2. A Random Video of a Railroad Worker is Not Sufficient or Relevant.

As his second source, Dr. Gale testified that he found an online video[4] of a "trackman" operating a track leveling device in order to gain an understanding of Mr. Hernandez's entire exposures over 10 years. (*Id.* at 38:5-9; 63:12-20.) The video provided Dr. Gale with a "general [sic] information description of trackman." (*Id.* 27:19-25.) The video was not specific to Union Pacific. (*Id*. at 28:3-7.) Dr. Gale did not know who authored or produced the information. (*Id.*) Dr. Gale did not provide Union Pacific with a copy of the video or provide a citation for this source. (*Id.* at 27:1-23.)

This fact is also insufficient as a basis for Dr. Gale's opinions under Fed R. Evid. 702. The video was not specific to Union Pacific, so it would not be representative of the types of exposures at the worksites and job tasks of Mr. Hernandez. (*See id.* at 27:19-28:7; 38:5-9; 63:12-20.) The video depicted a "trackman" operating a track leveling machine. (*See id.*) However, as established in the prior section of this brief, there is no proof in this case that Mr. Hernandez was even a trackman. This was an erroneous assumption by Dr. Gale. His attorneys said he was a "brakeman/laborer" instead. There is also no testimony or proof in this case that Mr. Hernandez operated the type of machinery as depicted in the video, let alone that he did it for 10 years as Dr. Gale assumed. (*See id.* at 27:21-28:7 (testifying that the video was not specific to Union Pacific's operations).) For the same reasons stated in the section above, a general video of railroad work—which is not tied in any manner to Mr. Hernandez's work or job sites—is not the type of sufficient acts or evidence that would support an expert opinion on toxic

[4] Dr. Gale underscored this analytical chain's absurdity where he admitted that the online video did not depict the job duties of trackmen at Union Pacific. (Gale Dep., Ex. 4, at 90:14-18.) Instead, he thinks "it was more [for] general knowledge and not specific to a railroad." (*Id.* at 16-18.) Dr. Gale was unable to describe where on the internet he found the video. (*Id.* at 90:9-13.)

exposures or causation under Fed. R. Evid. 702. *See Loudermill*, 863 F.2d at 570 (expert opinion lacking objective factual support cannot help jury and thus is inadmissible under Fed R. Evid. 702).

3. Dr. Landolph's Diesel Exhaust Projection Is Legally Insufficient For The Purpose Of Determining Plaintiff's Exposures.[5]

Plaintiff's only other source of information regarding Mr. Hernandez's alleged exposure to diesel exhaust is the projection arrived at by Plaintiff's other expert, Dr. Landolph. Dr. Landolph used an equation created by a California government agency for the purpose of enforcing the state of California's laws. (Dec. of Dr. Christopher M. Long ("Long Dec."), Ex. 7, at ¶ 11.) The equation has standard multipliers which are based on data and information specific to the State of California. (*Id.* at ¶¶ 10-13.) The equation was developed pursuant to a California state law that requires ***stationary sources*** of pollutants to report the types and quantities of certain substances routinely released into the air. (*Id.* at ¶ 11.)[6]

The purpose of the Act is to establish and empower Air Districts in the State of California to consider the potency, toxicity, and quantity of emissions released from a particular facility to determine if the facility poses a significant risk. *See*, The Air Toxics Hot Spots Information and Assessment Act, AB 2588 (1987). "The Air Toxics Hot Spots Information and Assessment Act is designed to provide information to state and local agencies and to the general public on the extent of airborne emissions from ***stationary*** sources and the potential public health impacts of those emissions." *See*, Guidance Manual for Preparation of Health Risk Assessments February 2015 Air, Community, and Environmental Research Branch Office of Environmental Health

[5] Union Pacific's arguments regarding the insufficiency of Dr. Landolph's diesel exhaust projections are also set forth in its motion in limine to exclude Dr. Landolph's testimony, submitted contemporaneously with the present motion.

[6] An overview of the AB 2588 Air Toxics "Hot Spots" Program can be found at https://ww3.arb.ca.gov/ab2588/ab2588.htm (last accessed 4/3/2020).

Hazard Assessment California Environmental Protection Agency, Introduction, p. 1-1 https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

Dr. Landolph's projection of the increased cancer risk for Mr. Hernandez utilized the methods and calculations developed by OEHHA pursuant to The Air Toxics Hot Spots Information and Assessment Act of 1987. (Long Dec., Ex. 7, at ¶ 11.) The California legislature directed COEHHA to create algorithms, recommended exposure parameters, and cancer and noncancer health values, in order to perform a health risk assessment under the Air Toxics Hot Spots Information and Assessment Act of 1987. (*Id.*) Dr. Landolph's resulting calculation then derives from COEHHA's assessment of generalized diesel exhaust levels within geographic locations in the state of California. (*Id.*) These calculations do not apply to people such as Mr. Hernandez, who lived and worked in Kansas and Missouri. (*Id.*)

This method of calculating exposures has not been adopted by other regulatory bodies and is not recognized as a valid scientific methodology by other scientists that practice toxicology. (*Id.*) Further, even if Mr. Hernandez had any connection to the state of California, these calculations only examine ambient air pollution risk to the population living in and around those air districts, not individuals working around moving equipment such as locomotives. (*Id.*) Because the formula Dr. Landolph used contains only generalized estimates, Dr. Landolph's risk calculation for Mr. Hernandez would apply to almost any person living in a California urban area. (*Id.*)

Dr. Gale relied[7] solely on this projection to develop his opinions regarding Mr. Hernandez's diesel exhaust exposures. (*Id.* at 131:18-25.) Dr. Gale admitted this projection is a

[7] Dr. Gale's statement that Dr. Landolph's excess risk calculation reflects an all-cancer risk is incorrect. (*See* Long Dec., Ex. 7, at ¶ 10, 12-13, 33.) Instead, Dr. Landolph's calculation reflects the excess risk that persons in a general population will develop *lung* cancer. (*Id.*)

proxy value, as opposed to a direct report of exposures specific to either Mr. Hernandez or Union Pacific. (*Id.* at 132:1-7; 142:2-14.) Since this projection is not specific to either Mr. Hernandez or to Union Pacific, and the calculation were designed solely for stationary places, not moving equipment, the projection is insufficient for the purpose of determining Mr. Hernandez's actual exposures in this case.

The Eighth Circuit's decision in *Junk* demonstrates why Dr. Landolph's projection is insufficient to form the basis of an admissible scientific opinion as a matter of law. 628 F.3d 439. In *Junk*, the plaintiff retained an expert to offer an opinion regarding a child's exposure to chlorpyrifos after Terminix chemically treated the child's home. (*Id.* at 443-44.) The expert testified that when "making toxic exposure and dosage estimates in his research, he usually relies on a 'deterministic modeling' method in which he creates an exposure model that accounts for numerous variables." (*Id.* at 444.) However, he admitted that he lacked the necessary data to perform the deterministic modeling. (*Id.)* Instead, he tried to compare the known circumstances of the child's alleged exposure with published studies of other circumstances the expert considered analogous to determine that Terminix had exposed the child to unsafe levels. (*Id.)*

The district court excluded the expert's proposed testimony, granted summary judgment, and the Eighth Circuit affirmed. (*Id.* at 450-51.) In doing so, the Eighth Circuit rejected the comparative method employed by the plaintiff's expert, noting that the expert "did not account for differences between conditions in the Junk household and those described in the articles he consulted." (*Id.* at 448.) For instance, he did not account for where and how the expert applied the chemicals and the size of the homes (exposure area.) (*Id.)* Therefore, the expert failed to use a "scientifically valid method to estimate" exposures. (*Id.)*

The excluded expert in *Junk* undertook a greater effort to develop his comparative model than Dr. Landolph did here. (*Id.* at 444.) Where the expert in *Junk* at least attempted to tailor his comparative analysis to incorporate conditions specific to the child's exposures, the extent of Dr. Landolph's knowledge regarding Mr. Hernandez's occupational duties comes from the following 4 words in Counsel's Summary: "Job title: Brakeman/laborer." (Dep. of Dr. Joseph R. Landolph, Ex. 8, at 9:18-22.) Dr. Landolph then took this information, compared it with a job description category in a study of Canadian railroad workers, and plugged the number he found into the COEHHA's equation. (Rep. of Dr. Joseph P. Landolph ("Landolph Rep."), Ex. 9, at 43-47.) Each step in this process further distanced Dr. Landolph's projections from Mr. Hernandez's reality.

For the same reasons as set forth in *Junk*, *Barrett* and *Viterbo*, Dr. Gale's opinions here must be excluded because they are so "fundamentally unsupported" by any reliable facts that he "can offer no assistance to the jury." *See First Union Nat'l Bank v. Benham,* 423 F.3d 855, 862 (8th Cir. 2005) (*quoting Hose v. Chicago Northwestern Trans.*, 70 F.3d 968, 974 (8th Cir. 1995)). It is not so much that Dr. Gale and Dr. Landolph made assumptions, it is that their assumptions and inferences are not grounded in fact or science. Such unfounded assumptions render their opinions unreliable. Dr. Gale offer no facts in support of his assumption, which he adopted from Dr. Landolph, other than the allegation given to them by Plaintiff's counsel – which Dr. Gale misread. Dr. Gale did not demonstrate that he had any background or experience in railroad work rendering which might render him capable of making these assumptions. *See In re Baycol Prods. Litig.*, 532 F. Supp. 2d 1029, 1046 (D. Minn. 2007) (excluding expert who based his opinion on numerous assumptions but failed to demonstrate that the bases for such assumptions were reliable). Expert testimony that is merely speculation or pure conjecture, and

which is derived from the expert's impressions of the physical evidence, must be excluded because it is not based on any reliable methodology or scientific principle. *J.B. Hunt Transp. v. General Motors Corp.*, 243 F.3d 441, 444-45 (8th Cir. 2001). For these reasons, the Court should exclude Dr. Landolph's opinions regarding Mr. Hernandez's diesel exhaust exposures, as well as the opinions of Dr. Gale that derive from Dr. Landolph's opinions.

B. Dr. Gale's Method Of Determining General Causation Is Inherently Unreliable.

Dr. Gale likewise did not use a reliable method to determine that diesel exhaust, silica dust, and/or asbestos can cause diffuse gastric cancer. The Eighth Circuit demands that a testifying expert know whether "the alleged toxin is capable of causing injuries like that suffered by the [decedent] in human beings subjected to the same level of exposure as the plaintiff." *Bonner v. Isp Techs.*, 259 F.3d 924, 928 (8th Cir. 2001). In other words, the expert must demonstrate the substance has the capacity to cause the alleged harm. *Bonner*, 259 F.3d at 928. *See also C.W. v. Textron, Inc.*, 807 F.3d 827, 831 (7th Cir. 2015). It is not enough that a substance is considered a carcinogen, rather the evidence must establish that the specific exposure can cause the specific cancer at issue. *See Allen v. Penn. Eng'g Corp.*, 102 F.3d 194, 196 (5th Cir. 1996) (holding "the fact that [ethylene oxide] has been classified as a carcinogen by agencies responsible for public health regulations is not probative of the question whether [the plaintiff's] brain cancer was caused by [this] exposure.").

Dr. Gale explained his method as follows: "[t]he process is to consider all the evidence in favor and contrary to the opinion that an exposure was more likely than not a cause, to a reasonable degree of medical probability, a cause of cancer. . . ." (Gale Dep., Ex. 4, at 55:6-12.) However, his explanation for how this process functioned was curiously vague:

Q: How did you apply the weight-of-the-evidence . . . analysis?

> A: I'm not sure I understand the question. I weighed all the evidence in favor and against and looked at which way the scale tipped.

In truth, Dr. Gale's process was limited solely to his qualitative judgment, and not a weight of the evidence review as he so stated. (*Id.* at 56:3-7.) For example, the studies cited by Dr. Gale as authoritative only address, at the most, possible **associations** between the alleged substances and gastric cancer, not causation. Evidence of association, taken alone, is insufficient to meet the plaintiff's burden to prove general causation. *See Wells v. SmithKline Beecham Corp.*, 601 F.3d 375, 379 (5th Cir. 2010). A review of Dr. Gale's testimony shows he was unable to provide a single published article supporting his proposition that the alleged substances, diesel exhaust, asbestos and silica, actually can cause gastric cancer.

For instance, Dr. Gale stated he relied on a 1996 meta-analysis by Pierluigi Cocco to determine that silica dust exposure causes gastric cancer. (Gale Dep., Ex. 4, at 83:23-85:19.) The study, however, only noted there were "inconsistent findings" regarding the purported link between silica dust and gastric cancer. (*See* Pierluigi Cocco et al., *Occupational Risk Factors for Gastric Cancer: An* Overview, Epidemiologic Reviews, Vol. 18, No. 2 (1996) ("Cocco 1996"), Ex. 10, at 228.) Moreover, the article's section, on which Dr. Gale relies, analyzes cancers experienced by miners, not railroad employees. (*See id.*) Dr. Gale did not feel this distinction was important. He testified that miners experience similar exposures as did Mr. Hernandez, because he watched the online video of railroaders operating a track-leveling device. (Gale Dep., Ex. 4, at 86:14-87:8.) Common sense alone dictates the dissimilarities between underground mining and overland railroading.

Dr. Gale then testified that he relied on multiple studies to determine that asbestos exposures can cause gastric cancer. (*Id.* at 94:4-95:2.) However, none of the studies on which

he relied analyzed exposures experienced by railroad workers. (*Id.* at 95:3-21; 98:1-7; 115:22-24.) For example, the primary article that Dr. Gale relied upon to support his opinion on asbestos only posited an *association* between asbestos and gastric cancer, not *causation*. (Wen-jin Peng, et al., *Stomach cancer mortality among workers exposed to asbestos: a meta-analysis*, J. Cancer Res. Clin. Oncol. (2014) ("Peng 2014"), Ex. 11, at 7.) Moreover, the study stated that the exact associative mechanism between the exposure and disease is unknown and that a dose-response relationship is unable to be determined due to limited data on the subject. (*Id.)*

Dr. Gale then relies on a study of Swedish cancer cases that occurred between 1971 and 1989 to support his opinion that diesel exhaust causes gastric cancer. (Gale Dep., Ex. 4, at 150:5-151:3.) However, a closer review of the study shows that it only addresses an association, not causation. (Paolo Boffetta, et al., *Occupational exposure to diesel engine emissions and risk of cancer in Swedish men and women*, Cancer Causes and Control (2001) ("Boffetta 2001"), Ex. 12, at 372.) Further, the study's results show that diesel exhaust exposure may be associated with cancers in men, but not women. (*Id.*) The study's authors reasoned that previous studies of diesel-exposed works did not demonstrate an association between diesel exhaust and gastric cancers, and therefore the authors might have simply failed to control for lifestyle differences between men and women, such as tobacco, alcohol, and diet. (*Id.*) Moreover, the study did not review exposures to trackmen or laborers, such as Mr. Hernandez. (*Id.* at 372-73.) The only railroad occupations the study analyzed were conductors, locomotive assistants, coachmen, and traffic controllers. (*Id.*)

Finally, Dr. Gale cited a study of professional drivers in Geneva, Switzerland as proof that diesel exhaust causes gastric cancer. (E. Gubéran, et al., *Increased risk for lung cancer and for cancer of the gastrointestinal tract among Geneva professional drivers*, British Journal of

Industrial Medicine, 49 (1992) ("Gubéran 1992"), Ex. 13, at 337-344.) However, the study does not discern between drivers' exposures to gasoline exhaust, diesel exhaust, or a combination of the two.[8] (*See id.*)

When scientific studies only posit an association between a substance and a disease, an expert must employ some form of methodology to explain why the association is actually causative. *Wells*, 601 F.3d at 379. Dr. Gale insists his "weight-of-the-evidence" analysis incorporates the Bradford Hill criteria, which require scientists evaluating causation to consider: (1) whether an association exists; (2) consistency of studies' results; (3) specificity of the association; (4) temporality; (5) the relevant dose-response curve; (6) biological plausibility of the relationship; (7) the hypothesis's coherence with other knowledge; (8) experiment; and (9) analogy. *In re Celexa & Lexapro Prods. Liab. Litig.*, 927 F. Supp. 2d 758, 765 n.13 (E.D. Mo. 2013).

Comparison of Dr. Gale's testimony, sources, and the Bradford Hill criteria shows that Dr. Gale did not employ the methodology he insisted he performed. As discussed above, Dr. Gale's studies offer inconsistent conclusions regarding whether an association between the alleged exposure and gastric cancer even exists. Moreover, Dr. Gale cannot identify the relevant dose-response or exposure threshold for any substance. Finally, his testimony shows he is unaware of the biological plausibility of how each substance would cause diffuse gastric cancer. Absent a reliable methodology, it becomes clear that Dr. Gale only relied on his subjective judgment to reach his general causation opinion. "No matter how good experts' credentials may be, they are not permitted to speculate." *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 671 (6th Cir.

[8] Another one of Dr. Gale's articles, *Occupation and gastric cancer*, cites to Gubéran 1992, but fails to point out that the study did not differentiate between exhaust types. (A Raj, et al., *Occupation and gastric cancer*, Postgrad Med J., 79 (2003) ("Raj 2003"), Ex. 14, at 255.)

2010) (internal quotations omitted). "[T]he courtroom is not the place for scientific guesswork, even of the inspired sort." (*Id.)* (quoting *Rosen*, 78 F.3d at 319). For these reasons, the Court should exclude Dr. Gale's general causation opinion.

C. Dr. Gale Cannot Demonstrate The Amount Of Diesel Exhaust, Silica Dust, or Asbestos That Can Cause Diffuse Gastric Cancer.

In order to admit a toxic tort opinion into evidence, the Eighth Circuit also demands that the expert be able to prove, with a degree of certainty, the levels of exposure that can cause the disease at issue. *Wright*, 91 F.3d at 1106. This is generally referred to as the dose-response relationship. Here, for each alleged substance, Dr. Gale admits he does not have this knowledge.

For instance, here is his testimony regarding silica dust:

> Q: Do you know how much silica dust is necessary to produce stomach cancer?
>
> A: I don't think—I don't know, and I don't think that is known.

(Gale Dep., Ex. 4, at 67:4-7.)

Here is his testimony regarding asbestos:

> Q: Is there a known dose or amount of exposure to asbestos that is more likely than not to cause stomach cancer?
>
> A: It's generally—well, firstly, I wasn't asked to opine about more likely than not to be the cause. . . . It's generally assumed that a fiber of asbestos can cause cancer. And I can't answer specifically [for] gastric cancer.
>
> . . .
>
> Q: But my [question], maybe you don't know, is limited to whether or not you have knowledge of a specific dose or amount of asbestos that's shown in studies to cause stomach cancer. And I thought you said you don't know. . . . is that correct?
>
> . . .

> A: So, I think that assumes facts that are not in evidence, that there is such a dose and that I may or may not know it. But I'm not aware of any such dose.

(*Id.* at 105:4-106:22.)

Finally, here is his testimony regarding diesel exhaust:

> Q. Did any of the studies that you looked at that were specific to diesel exhaust particulate matter and stomach cancer find a threshold number or a dose response amount?
>
> A . Well, those are two completely different concepts.
>
> Q. Either or.
>
> A. There are -- I'm not aware of any, and there's no scientific basis for this type of carcinogen to think that there would be a threshold. You know, I reviewed, you know, somewhere between 50 and 100 reports regarding diesel engine exhaust particulates. So I would not be surprised if one or more showed a response rate that the risk is related to the exposure, extent of the exposure. But that doesn't mean that even at the lowest exposure levels there isn't a risk. But -- and we'd have to go through those documents. So whether more exposure increases the risk, well, that's quite likely. But whether there's a threshold or whether there's no risk at a certain level, is it unlikely? And I'm not aware of any scientific body that regards a carcinogen like diesel engine exhaust particulates as having a threshold for the possibility or probability of causing cancer.

(*Id.* at 136:15-25, 137:1-15.) Dr. Gale was unable to describe a dose-response relationship between diesel exhaust and gastric cancer during the duration of his testimony.

Knowledge of the amount of the substance or toxin that can cause the disease at issue is an essential step in an expert's causation opinion. The expert must be able to explain "how the described exposure corresponded to a level of exposure that would cause the … cancer." *McLaughlin*, 2020 U.S. Dist. LEXIS 23068, at *13. Dr. Gale's lack of knowledge on the dose/response amounts for all three of the substances at issue here demands the exclusion of his general causation opinion as a matter of law. *McLaughlin*, 2020 U.S. Dist. LEXIS 23068, at *17-20.

Judge Gerrard's opinion in the *McLaughlin* case is directly on point. There, plaintiff's expert, Dr. Wilkenfeld, relied upon an IARC publication on diesel exhaust as support for his opinion that the plaintiff's exposure to diesel exhaust caused his lung cancer. *McLaughlin,* 2020 U.S. Dist. LEXIS 23068, at *2. Plaintiff was a carman who worked at the BNSF railroad yard in Lincoln, Nebraska. (*Id.)* In that case, Dr. Wilkenfeld had no knowledge of how much diesel exhaust is capable of causing lung cancer. (*Id.* at *17.) Dr. Wilkenfeld instead relied upon "the IARC's determination in 2012 that diesel exhaust causes lung cancer." (*Id.)* Judge Gerrard concluded: "But that is not enough to rule in diesel exhaust as a cause of McLaughlin's lung cancer, because Wilkenfeld does not know *how much* diesel exhaust exposure the IARC found to cause lung cancer. (*Id.)* (emphasis in original).

So too, here. While Dr. Gale claims he relied upon Dr. Landolph, ultimately Dr. Gale did not know **how much** diesel exhaust, asbestos or silica dust can cause gastric cancer in humans. Dr. Gale's lack of this essential information means that, as a matter of law, his opinion is not admissible under Fed. R. Evid. 702(b) and Daubert. *See McLaughlin,* 2020 U.S. Dist. LEXIS 23068 at *14.

III. DR. GALE CANNOT DEMONSTRATE SPECIFIC CAUSATION.

To admit his opinion on specific causation, Dr. Gale must show Mr. Hernandez's actual level of exposure to the defendant's toxic substance. *Wright,* 91 F.3d at 1106. Further, Dr. Gale must be able to tie Mr. Hernandez's gastric cancer to that exposure. *McLaughlin,* 2020 U.S. Dist. LEXIS 23068, at *13. In other words, Dr. Gale must demonstrate that Mr. Hernandez was exposed to a **particular substance** and prove that it has the capacity to cause the alleged harm **at the dose and duration** experienced. *C.W. v. Textron,* 807 F.3d 827, 832-33 (7th Cir. 2015).

A. Dr. Gale Has No Reliable Scientific Evidence Of Mr. Hernandez's Alleged Exposure Levels.

Dr. Gale has no information about the dose of Mr. Hernandez's exposure to diesel exhaust, silica dust, or asbestos. He does not know the amount of any substance that Mr. Hernandez may have been exposed to while working, or the frequency or duration of any exposure that Mr. Hernandez may have experienced. This is fatal to satisfying *Daubert* and analysis under Fed. R. Evid. 702.

Again, *McLaughlin* directly on point. There, the plaintiff's expert, Dr. Wilkenfeld, did not know how much diesel exhaust **the plaintiff** was exposed to while working as a carman at the BNSF railyard. *Id.* at 1-2. Judge Gerrard excluded the expert's opinion for failing to meet the requirements of *Daubert* and Fed. R. Evid. 702.

> **Wilkenfeld cannot possibly link McLaughlin's alleged diesel exhaust exposure, whether derived from McLaughlin's subjective recollection or 'objective' records, to his lung cancer if Wilkenfeld does not know what levels of exposure have been shown to cause lung cancer.** For example, the court can imagine a scenario where an expert, familiar with a toxin and a range of dangerous exposure levels, could analogize the work environment described by a plaintiff to other scenarios that produced lung cancer. But that is not what Wilkenfeld did. While raised by BNSF as an error in Wilkenfeld's methodology, **the Court considers Wilkenfeld's lack of knowledge to be a deficiency in the facts and data Wilkenfeld needed to answer the question of whether McLaughlin's exposure caused his lung cancer**. And testimony like Wilkenfeld's, that is speculative and unsupported by facts, is inadmissible.

McLaughlin, 2020 U.S. Dist. LEXIS 230268, at *13-14 (emphasis added); *see also Wright*, 91 F.3d at 1108, ("Without proving hazardous levels of exposure to Willamette's formaldehyde, the Wrights failed to carry their burden of proof at trial on the issue of causation because the evidence failed to support a reasonable inference in favor of the jury's implicit finding against Willamette on the causation issue.").

Likewise this Court's decisions in *West v. Union Pacific R.R.*, U.S. Dist. LEXIS 16711 (D. Neb. Feb. 3, 2020) and *Harder v. Union Pacific R.R.*, 2020 U.S. Dist. LEXIS 14313 (D. Neb. Jan. 29, 2020) are clarifying. In both those cases, the plaintiff's expert did not know the levels or

amounts of the plaintiffs' exposures to the substances at issue. *Harder*, 2020 U.S. Dist. LEXIS 14313, at *11; *West*, U.S. Dist. LEXIS 16711, at *11. This Court noted that the expert "is not aware of any specific details of Harder's alleged exposures. He is unaware of Harder's length of exposure, concentration of exposure, and the atmosphere of exposure." *Harder*, 2020 U.S. Dist. LEXIS 14313, at *9. This Court excluded the expert's specific causation opinion because the expert made "no attempt to discern when the level and length of toxin exposure **crosses the line from of a mere possible cause to a probable or likely cause** of follicular lymphoma, or that Harder's exposure met or exceeded that exposure level." (*Id.* at *10-11 (emphasis added).)

Like *West*, *McLaughlin*, and *Harder*, Dr. Gale has no information regarding the levels of Mr. Hernandez's exposures to the alleged substances. Dr. Gale expressly testified that he has no knowledge of Mr. Hernandez's exposure to silica dust:

> Q: All right. What I want to know, though, right now is what dose you assumed or had knowledge of with regard to Mr. Hernandez's exposure to silica.
>
> A: **I don't.** Other than my description on page 5, 6, of Exhibit 3, and my research on—that I described about how these track leveling devices work, **I don't have specific knowledge of his dose of silica.**

(*Id.* at 62:14-22 (emphasis added).) To be clear, the "research" he was referring to, above, was him watching an online video of railroad employees operating a machine that he was not sure if Mr. Hernandez would have ever used in his employment. (*Id.* at 86:14-87:8.)

Dr. Gale similarly admits he has no knowledge of the levels of Mr. Hernandez's asbestos exposures:

> Q: So what—what knowledge, do you have as to the amount of asbestos or dose of asbestos that Mr. Hernandez was exposed to while working at Union Pacific Railroad?
>
> A: So you mean the actual dose?
>
> Q: Yes, Or a proximity, yes.

A: Well, I mean, no one can know the actual dose unless they were—spoke to Mr. Hernandez or with Mr. Hernandez. So everything would have to be secondhand.

Q: And so do you have secondhand knowledge about the dose of asbestos Mr. Hernandez was exposed to?

A: My only knowledge comes from the job description. . . . Well, it's indicated in the last paragraph of [my expert report].

. . .

Q: Yes. But what is the amount?

A: Oh. Doesn't give an amount.

(*Id.* at 87:17-88:13.) Dr. Gale admits he adopted several assumptions about the job tasks he thought Mr. Hernandez may have performed while working at Union Pacific. (*Id.* at 88:13-89:12.) Not one of these assumptions are based on any facts in this record. When asked why he relied upon assumptions like this, Dr. Gale admitted the subject was outside his area of expertise. (*Id.* at 89:6-18.)

Finally, Dr. Gale does not possess evidence of the levels of Mr. Hernandez's alleged diesel exhaust exposures. Instead, Dr. Gale relies on Dr. Landolph's inapplicable projection of Mr. Hernandez's exposure. As more thoroughly discussed *supra*, Dr. Landolph's projection is not based on a valid scientific method that practicing toxicologists recognize. (Long Dec., Ex. 7, at ¶¶ 5-15.)

When an expert cannot offer any opinions regarding the level of exposure specific to a plaintiff, the expert has failed to employ a scientific method and his opinions should be excluded. *York*, 2019 U.S. Dist. LEXIS 27644 at *16. Because Dr. Gale and Dr. Landolph lack such evidence, Dr. Gale's specific causation opinions must be excluded.

B. Dr. Gale Improperly Performed A Differential Etiology.

Finally, in order to admit an expert's opinion on specific causation, the Eighth Circuit requires proof that the plaintiff's exposure is factually tied to his disease. *See McLaughlin*, 2020 U.S. Dist. LEXIS 23068 at *13-14. Some experts use a differential etiology to show this link, and the Eighth Circuit has approved of this method if it is properly applied. (*Id.* at *16-17.)

Here, Dr. Gale testified that he performed a differential etiology and "Bayesian analysis" to determine that Mr. Hernandez's exposures to diesel exhaust, silica dust, and asbestos specifically caused his diffuse gastric cancer. (Gale Dep., Ex. 4, at 199:8-11; Gale Rep., Ex. 5, at 13.) Dr. Gale's report specifically states he followed the method set forth in the Reference Manual on Scientific Evidence from the Federal Judicial Center: Reference Guide on Medical Testimony. (Gale Rep., Ex. 5, at 13.) The Manual states that this technique requires the expert to rule in potential risk factors, and then rule out the "least plausible causes of injury until the most likely case remains, thereby reaching a conclusion" to whether defendant is liable. Federal Judicial Center, & National Research Council (U.S.), *Reference Manual On Scientific Evidence*, Washington, D.C., National Academies Press. (3d Ed. 2011) at 690. However, review of Dr. Gale's testimony shows he did not follow this method, and therefore his testimony must be excluded.

1. <u>Dr. Gale Improperly Ruled In Mr. Hernandez's Alleged Exposures As The Cause For Mr. Hernandez's Gastric Cancer</u>.

When using a differential etiology, an expert cannot rule in a cause that is not supported by his testimony or the facts of the case. *McLaughlin*, 2020 U.S. Dist. LEXIS 23068, at *17. In *McLaughlin*, Judge Gerrard excluded the plaintiff's causation expert because he inappropriately ruled in diesel exhaust exposure as a cause of the plaintiff's cancer. (*Id.* at *17.) The expert was

unable to testify as to the amount of diesel exhaust that is capable of causing cancer, or the amount of diesel exhaust that the plaintiff was exposed to while working. (*Id.)*

> Wilkenfeld cannot explain how McLaughlin's described exposure corresponds to a level of exposure that would cause lung cancer, and so has not reliably ruled it in. Wilkenfeld relied on the IARC's determination in 2012 that diesel exhaust causes lung cancer. But that is not enough to rule in diesel exhaust as a cause of McLaughlin's lung cancer, because Wilkenfeld does not know *how much* diesel exhaust exposure the IARC found to cause lung cancer.

(Id. at *17-18 (emphasis in original)).

This Court also excluded an expert in *Harder,* 2020 U.S. Dist. LEXIS 14313 (D. Neb. Jan. 29, 2020) and *West,* U.S. Dist. LEXIS 16711 (D. Neb. Feb. 3, 2020) cases for the same reason.

> Despite repeated questioning, Dr. Chiodo did not and/or could not articulate any reliable basis for knowing the level and length of Harder's exposure to diesel fumes, or that the level of Plaintiff's exposure is causally related to developing lymphoma. Plaintiff has therefore failed to meet his burden of proving Harder's exposure to diesel fumes during his railroad employment was a cause of his lymphoma.

Harder, 2020 U.S. Dist. LEXIS 14313 at *14.

> Even assuming Chiodo is correct—that any level of diesel exposure can cause renal cancer—the doctor makes no attempt to discern when the level and length of exposure crosses the line from a mere possible cause to a probable or likely cause of renal cancer, or that West's exposure met or exceeded that exposure level.

West, U.S. Dist. LEXIS 16711 at *12-14.

Just as in *McLaughlin*, *Harder*, and *West*, Dr. Gale "ruled in" Mr. Hernandez's exposures to diesel exhaust, silica dust, and asbestos – even though these exposures were not sufficiently supported by the facts in this case. Dr. Gale, as discussed *supra* in Section II(A) and Section III(A) of this brief, (1) has no knowledge of the amount of the alleged substances that can cause gastric cancer; and (2) the amount, extent, and duration of Mr. Hernandez's exposures to the alleged. Accordingly, Dr. Gale cannot testify to the dose/response relationship between diesel

exhaust, asbestos and silica dust and gastric cancer in general, nor to Mr. Hernandez's dose/response, specifically.

The case of *Glastetter v. Novartis Pharm.* illustrates this principle. 252 F.3d 986 (8th Cir. 2001). In *Glastetter*, the plaintiff sought to admit expert testimony that ingestion of the drug Parlodel caused her to have a stroke as a result of an intracerebral hemorrhage (ICH). (*Id.* at 988.) Each of her experts claimed to have performed a "differential diagnosis" to conclude that the drug caused the ICH. (*Id.)* The Eighth Circuit affirmed the district court's holding that the scientific evidence did not demonstrate an acceptable degree of medical certainty. (*Id.* at 989.) It noted that the expert's cited literature relied upon case reports and anecdotal information to find an association. (*Id.* at 990). The district court correctly rejected the studies as scientifically unreliable because they did not substantiate her experts' claims. (*Id.* at 992.) In other words, the major premise that Parlodel can cause ICH was not set forth in the expert's studies. (*See id.)*

Here, as in *Glastetter*, Dr. Gale failed to demonstrate to an acceptable degree of scientific certainty that exposure to diesel exhaust, silica dust, and asbestos causes gastric cancer, or what level of exposure to each is necessary to cause the disease. Dr. Gale lacked sufficient knowledge of Mr. Hernandez's working conditions to provide the foundation necessary to offer any opinion that ruled in these substances as causes. Thus, Dr. Gale could not reliably rule-in exposures from Union Pacific as part of a scientific differential etiology.

2. Dr. Gale Did Not Exclude Other Causes For Mr. Hernandez's Gastric Cancer.

Simply stating that he performed a differential etiology is not enough; Dr. Gale must actually demonstrate that he did so. *See Brown v. Burlington N. Santa Fe Ry.*, 765 F.3d 765, 773 (7th Cir. 2014) (noting that an expert in a FELA case "must do more than just state that she is applying a respected methodology [differential etiology]; she must follow through with it").

"The very nature of a differential diagnosis requires a consideration and elimination of other possible causes." *Berg v. Johnson & Johnson*, 940 F. Supp. 2d 983, 990 (D.S.D. 2013); *see also Turner v. Iowa Fire Equip. Co.*, 229 F.3d 1202, 1209 (8th Cir. 2001) (affirming exclusion of testimony in part because expert "did not scientifically eliminate other potential causes of [plaintiff's] condition"); and *Harder*, 2020 U.S. Dist. LEXIS 14313 at *12 ("The relaxed standard of causation under FELA still requires an expert applying a differential diagnosis to "rule out" alternative causes as the sole cause.").

Here, Dr. Gale candidly admits that he did not and could not rule out several potential causes of Mr. Hernandez's gastric cancer. As discussed above, Dr. Gale admits that geography, social class, socioeconomic parameters, family history, diet, and smoking history are all risk factors for developing gastric cancers. (Gale Dep., Ex. 4, at 120:18-123:20.) However, Dr. Gale did not rule out these causes of Mr. Hernandez's disease because plaintiff's counsel did not ask him to do so. (*Id.* at 82:14-18; 165:18-166:4.) This specifically includes his failure to rule out smoking, obesity, and idiopathic causation. (*Id.* at 167:21-22; 179:6-23; 195:18-22.)

Most concerning, until Union Pacific's counsel pointed this out at Dr. Gale's deposition, he was not even aware that Mr. Hernandez was diagnosed, multiple times, with an *H. pylori* infection—a well-known cause of the specific cancer from which Mr. Hernandez suffered. (*Id.* at 196:25-197:12.) Science's recognition of the causative role of such infection in the development of gastric cancer is considered to be one of the most important developments in the understanding of the biology and pathogenesis of gastric cancer. (Klute Dec., Ex. 3, at ¶ 15.) Notably, case control studies demonstrate that *H. pylori* infections are strongly correlated with an increased risk of gastric adenocarcinoma, and an estimated 60% of gastric cancer cases would not occur if *H. pylori* did not exist. (*Id.*)

Dr. Gale's report does not mention *H. pylori*, and he admitted in his deposition testimony that he could not rule out the infection as the sole cause of Mr. Hernandez's gastric cancer. (*See* Gale Rep., Ex. 5; Gale Dep., Ex. 4, at 196:25-197:12.) This means he failed to rule out the most **common cause** of diffuse gastric cancer. (Klute Dec., Ex. 3, at ¶ 22.) Dr. Gale's failure to rule out *H. pylori* precludes the possibility that Dr. Gale performed a proper differential etiology and renders his causation opinion scientifically unreliable. (*Id.*) As submitted by Union Pacific's expert, Dr. Kelsey A. Klute, *H. pylori* infection played an unequivocal causative role in the Mr. Hernandez's development of diffuse gastric cancer—an unequivocal cause that Dr. Gale simply did not account for. (*Id.* at ¶ 23.)

Failure to rule-out alternative causes as the sole cause, however, is **fatal** to the reliability and admissibility of specific-causation opinions because "it means that these alternative causes may have been the sole cause of the plaintiffs' injuries." *In re Paoli R.R. Yard Pcb Litig.*, 35 F.3d 717, 760 n.31 (3d Cir. 1994); *see also Claar*, 29 F.3d at 502; *Harder*, 2020 U.S. Dist. LEXIS 14313 at *12 (finding expert's opinion scientifically unreliable because he made no effort to rule out other potential causes). Dr. Gale was required under *Claar*, *Turner* and *Harder* to rule-out other potential causes of Mr. Hernandez's gastric cancer. Dr. Gale's refusal to do so renders his opinions on specific causation inadmissible. Therefore, the Court should exclude his opinion on specific causation under Fed. R. Evid. 702.

CONCLUSION

Dr. Gale's general and specific causation opinions do not meet the rigors of Fed. R. Evid. 702, *Daubert*, or Eighth Circuit caselaw. His opinions entirely rely on the allegations set forth in Plaintiff's counsel's one-page summary of Mr. Hernandez's life and occupation, an online video, and on an inapplicable projection from Plaintiff's other expert. From those three sources,

Dr. Gale made unsupported assumptions about Mr. Hernandez's exposures that are not grounded in fact or science.

Dr. Gale has no information regarding the duration, frequency and amount of Mr. Hernandez's alleged exposures to diesel exhaust, silica dust, and asbestos. Likewise, Dr. Gale has no knowledge of the amount of exposures to these substances exposure that is capable of causing diffuse gastric cancer. Therefore, he cannot scientifically link Mr. Hernandez's exposure to his disease.

Moreover, Dr. Gale says he performed a differential etiology to determine specific causation, but he ruled in Mr. Hernandez's alleged exposures as potential causes without the factual basis to do so, and did not rule-out the most significant causes or risk factors for gastric cancer. Union Pacific does not dispute that Dr. Gale is a scientist. Dr. Gale's methodologies, however, were not scientific in this case. Instead, Dr. Gale has merely substituted his own *ipse dixit* for scientific proof. Consequently, there is simply too great an analytical gap between the data and the opinion proffered. None of Dr. Gale's opinions on these subjects satisfy the requirements of Fed. R. Evid. 702, as interpreted by the Eighth Circuit and this Court in similar cases.

WHEREFORE the Defendant, Union Pacific, respectfully requests that the Court grant its Motion in Limine to exclude Dr. Gale from offering any opinions in this case, and for further relief as this Court deems just and proper.

DATED this 3rd day of April 2020.

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Certificate of Compliance with NeCivR 7.1

I certify that this brief complies with the word limitations of NeCivR 7.1, as this brief contains 12,646 words. This count includes all words, including the caption, headings, footnotes, and quotations, as determined by Microsoft® Word for Office 365's word count function.

/s/ Maria T. Lighthall

CERTIFICATE OF SERVICE

I hereby certify that on April 3, 2020, I electronically filed the foregoing document with the Clerk of the Court using the CM/ECF system which sent notification of such filing to all counsel of record, and there are no participants to send the foregoing document to by United States Postal Service.

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